

# Vermont Mental Health Performance Indicator Project

DDMHS, Weeks Building, 103 South Main Street, Waterbury, VT 05671-1601 (802-241-2638)

## MEMORANDUM

TO: Vermont Mental Health Performance Indicator Project  
Advisory Group and Interested Parties

FROM: John Pandiani  
Janet Bramley

DATE: December 15, 2000

RE: Relative Risk of Mortality: Adults with severe and persistent mental illness.

This week's PIP presents the first cross-state comparison of mortality rates to be produced by the Sixteen State Performance Indicator Project. Mortality rates provide a basic measure of the health of populations and subpopulations, especially disadvantaged populations and populations at risk. The relative risk of mortality associated with specific mental disorders has been of interest to the psychiatric profession for a number of years. More recently, the relative risk of mortality has been of increasing concern to the public mental health systems of care. Mortality rates are among the measures adopted by both the CMHS Sixteen State Performance Indicator Demonstration Project and the NASMHPD Framework for Performance Indicators.

The analysis reported here compares client mortality rates for Vermont with rates for similar service recipients in Oklahoma. The data used in this analysis were drawn from two sources. Databases maintained by state mental health authorities in each state provided information on all individuals with a severe and persistent mental illness who were served in public community mental health programs during each year under examination. Vital records mortality databases maintained by each state provided information on all individuals who died during each year 1992 through 1998.

Because the vital records and mental health data sets in these states do not share unique person identifiers, Probabilistic Population Estimation was used to determine the number of people in the client population who died during the treatment year or the following year. In order to account for expected variation in year-to-year mortality rates

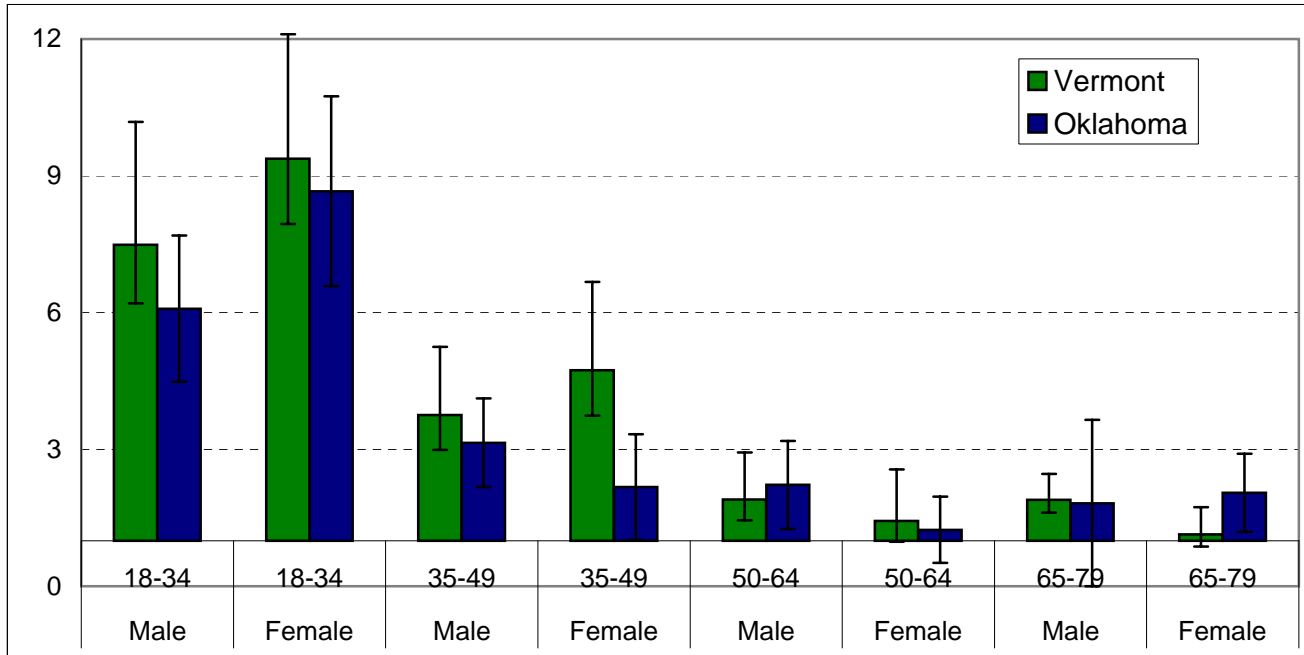
due to the relatively small numbers involved, two-year mortality rates were calculated for all clients served in each of six base years. These two-year mortality rates included individuals who died during the base year or during the following year. In order to account for natural variation in mortality rates among people in different age and gender categories, mortality rates were determined for the client population and the general population in each of eight age/gender categories. In order to account for variation in mortality rates for the general population of the two states, the relative risk of mortality associated with severe and persistent mental illness was determined by comparing the mortality rates for the client population with the mortality rates for the general population of the United States.

Mortality rates for adults in treatment for severe and persistent mental illness in Vermont and Oklahoma tended to be similar within age and gender categories, although there was a statistically significant difference between the two states in relative risk of mortality for clients in the 35-49 age group. Both male and female Vermont clients in this age group had higher mortality than Oklahoma clients in the same age and gender category. Compared to members of the general population of the United States, young people in treatment for severe and persistent mental illness in both states had the greatest elevated risk of mortality. The difference in mortality rates, however, decreased substantially with increasing age. In our oldest age group (65-79) the mortality rates for people in treatment was similar to the mortality rate for the general population.

We look forward to your comments on this measure of service system performance and your suggestions for further analysis. Your comments and suggestions will be appreciated at 802-241-2638 or [jpandiani@ddmhs.state.vt.us](mailto:jpandiani@ddmhs.state.vt.us).

## Relative Risk of Mortality

White Adults Receiving Community Services for Severe and Persistent Mental Illness  
in Vermont and Oklahoma: 1992 to 1997



| Gender | Age   | Relative Risk of Mortality |                | Statistical Significance |
|--------|-------|----------------------------|----------------|--------------------------|
|        |       | Vermont                    | Oklahoma       |                          |
| Male   | 18-34 | 7.5 (6.2-10.2)             | 6.1 (4.5-7.7)  | p=0.078                  |
| Female | 18-34 | 9.4 (7.9-12.1)             | 8.7 (6.6-10.7) | p=0.506                  |
| Male   | 35-49 | 3.8 (3-5.2)                | 3.1 (2.2-4.1)  | p=0.000                  |
| Female | 35-49 | 4.7 (3.7-6.7)              | 2.2 (1-3.3)    | p=0.000                  |
| Male   | 50-64 | 1.9 (1.4-2.9)              | 2.2 (1.3-3.2)  | p=0.275                  |
| Female | 50-64 | 1.4 (1-2.6)                | 1.2 (0.5-2)    | p=0.540                  |
| Male   | 65-79 | 1.9 (1.6-2.5)              | 1.8 (0-3.6)    | p=0.905                  |
| Female | 65-79 | 1.1 (0.9-1.7)              | 2.1 (1.2-2.9)  | p=0.070                  |

Relative risk of mortality is the mortality rate for service recipients divided by the mortality rate for the people in the same age and gender groups in the general population. A relative risk of '3' means that service recipients are three times more likely to die than members of the general population. Mortality rates are based on annual computations for FY 1992 - 1997 using client data from Community Mental Health Services data bases and mortality data from Vital Records databases. Because the client and mortality datasets do not share unique person identifiers, Probabilistic Population Estimation was used to calculate the number of clients who died in the year of treatment or the subsequent year. Mortality rates 1992 - 1997 were then averaged to cover year to year variation and increase the precision of the estimates.